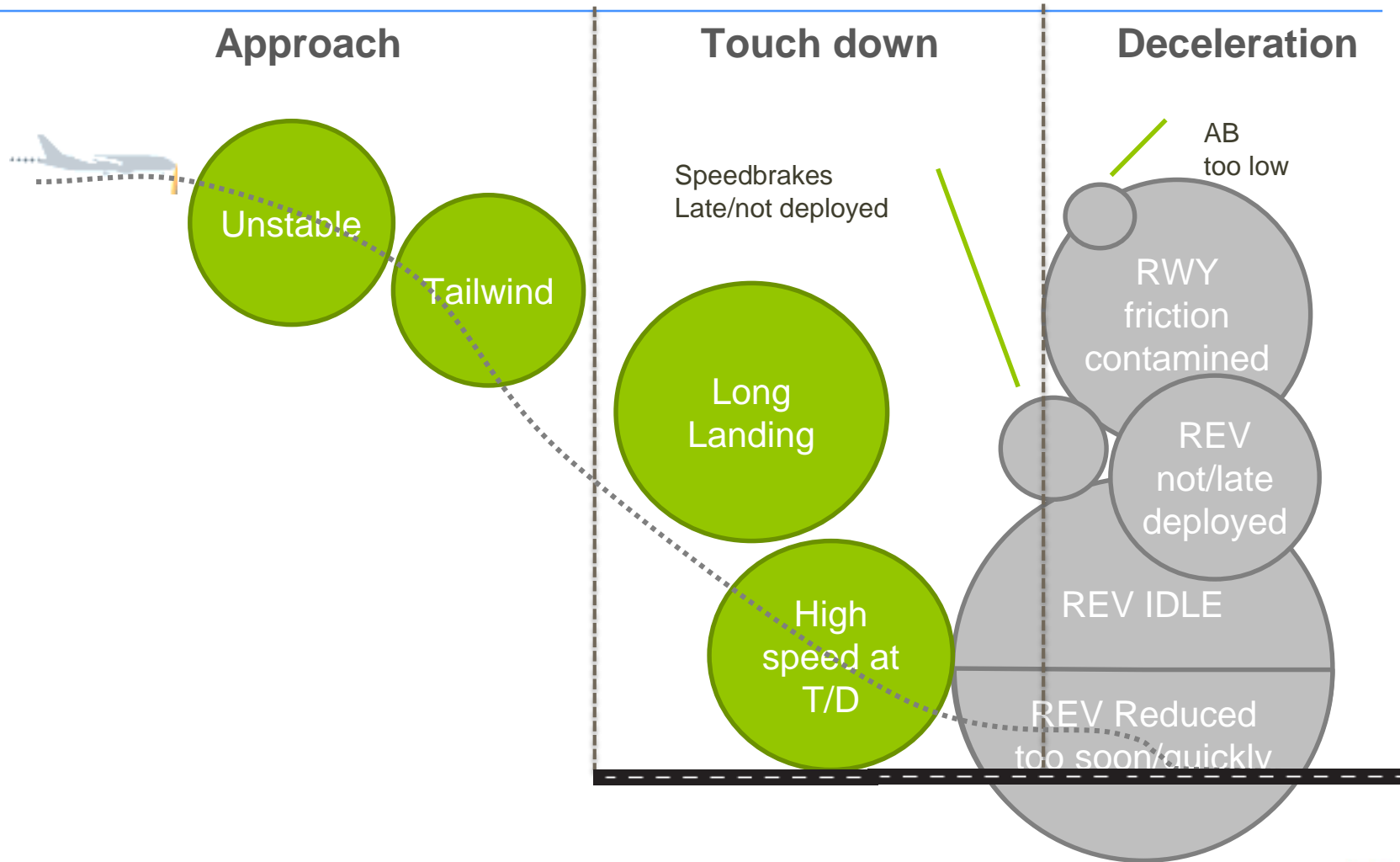


Runway Overrun Risk

EASA FDM Conference

June 2017

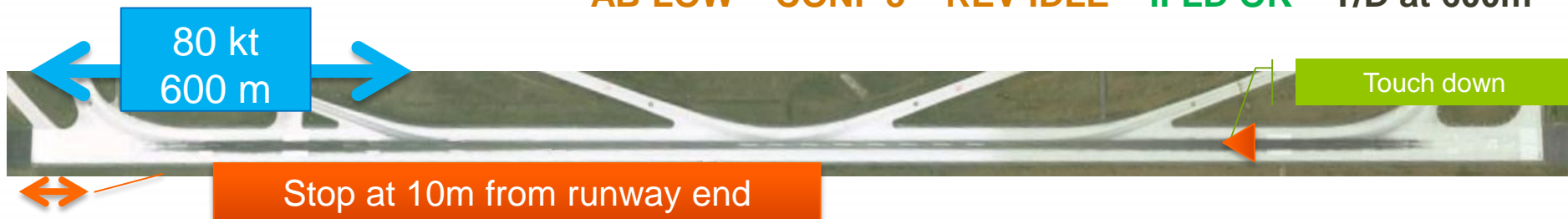
What is a « good » landing for our pilots ?



Can we overrun if those criterias are within limitations ?

REAL EVENT :

CDG26L – A320 – 64T – Night – **runway WET (ATIS)**
AB LOW – CONF 3 – REV IDLE – IFLD OK – T/D at 600m



REV FULL SIMULATION :

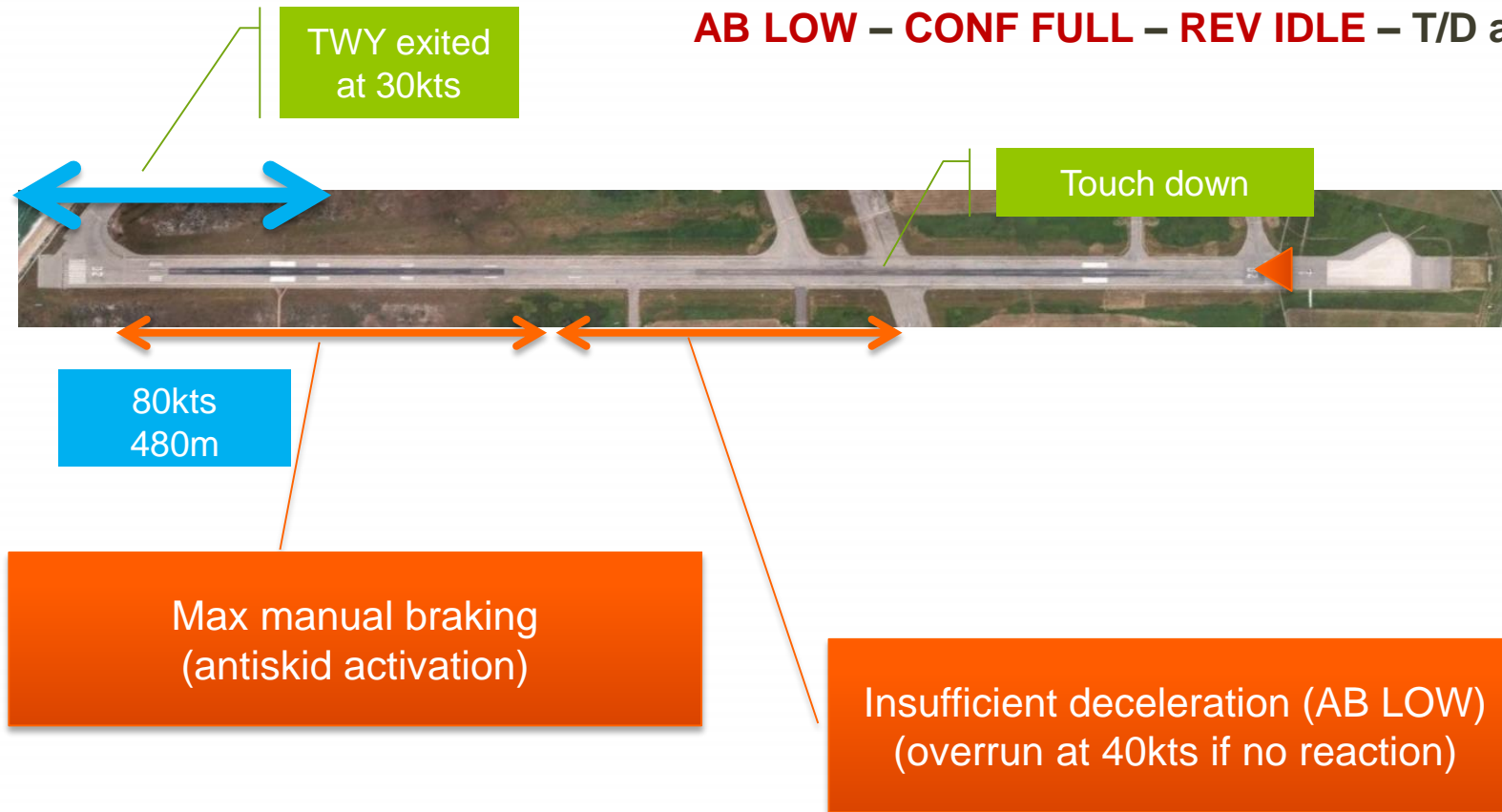


Development of new FDM tests - What did we detect ?

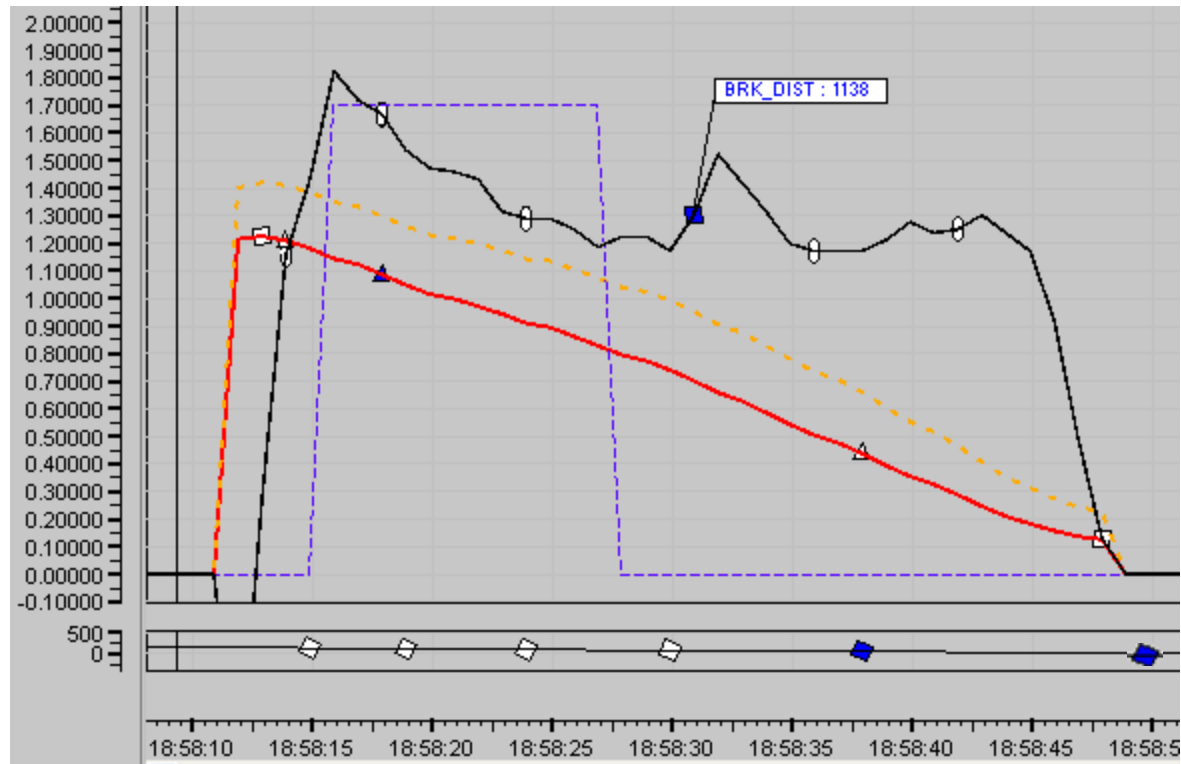
REAL EVENT - AIR FRANCE (AUG 2013)

AJA20 – A321 – 74T – Day – Runway DRY – LDA = 2180 m

AB LOW – CONF FULL – REV IDLE – T/D at 700m

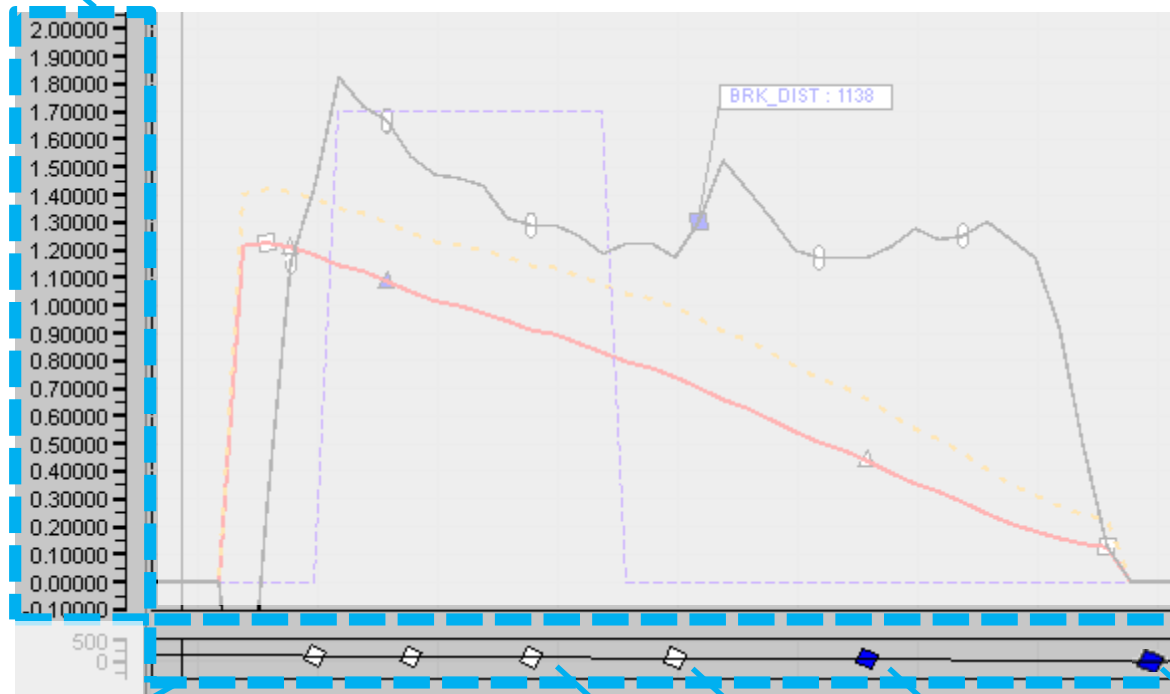


Graphical View of Landing Run



X and Y axis

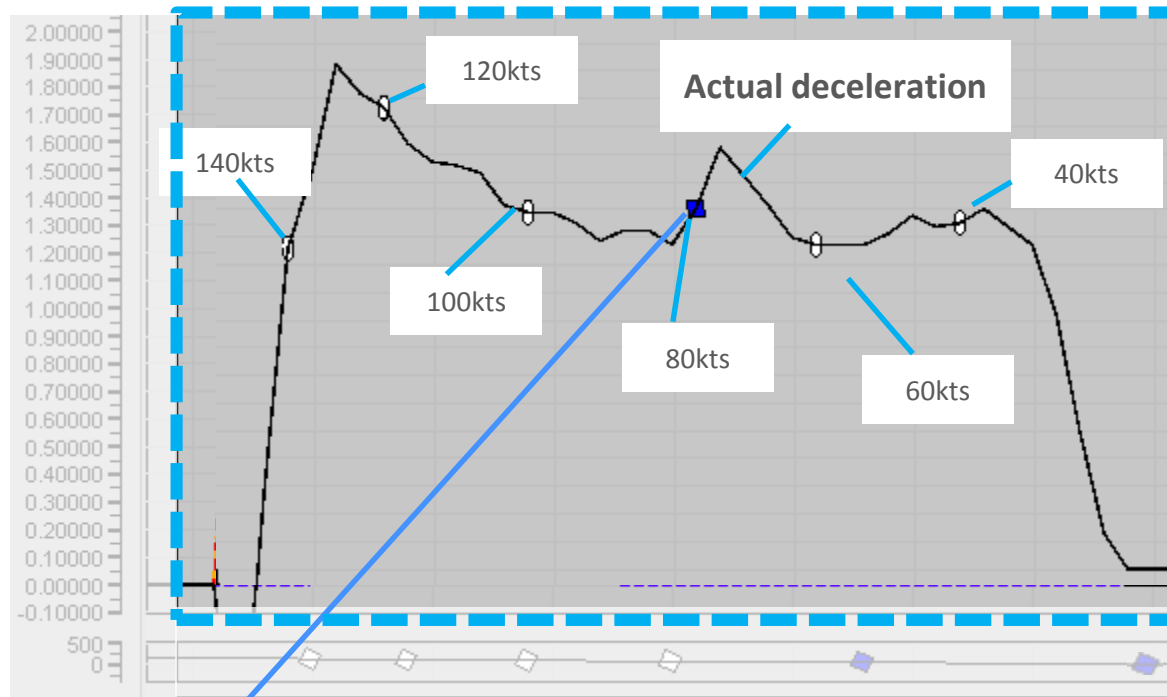
Deceleration
in m/s²



- Time line
 - The diamonds represent every 300m
 - The first full diamond represents 900m to Rwy end
- 1500m left 1200m left 900m left 600m left



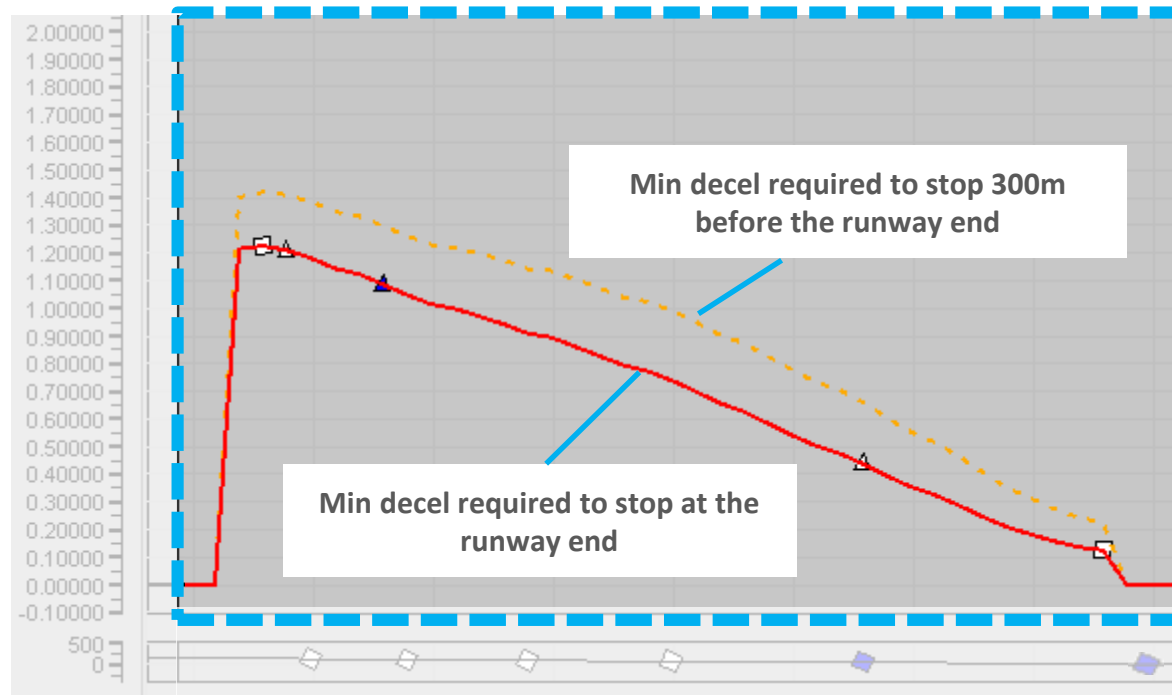
Deceleration and speed



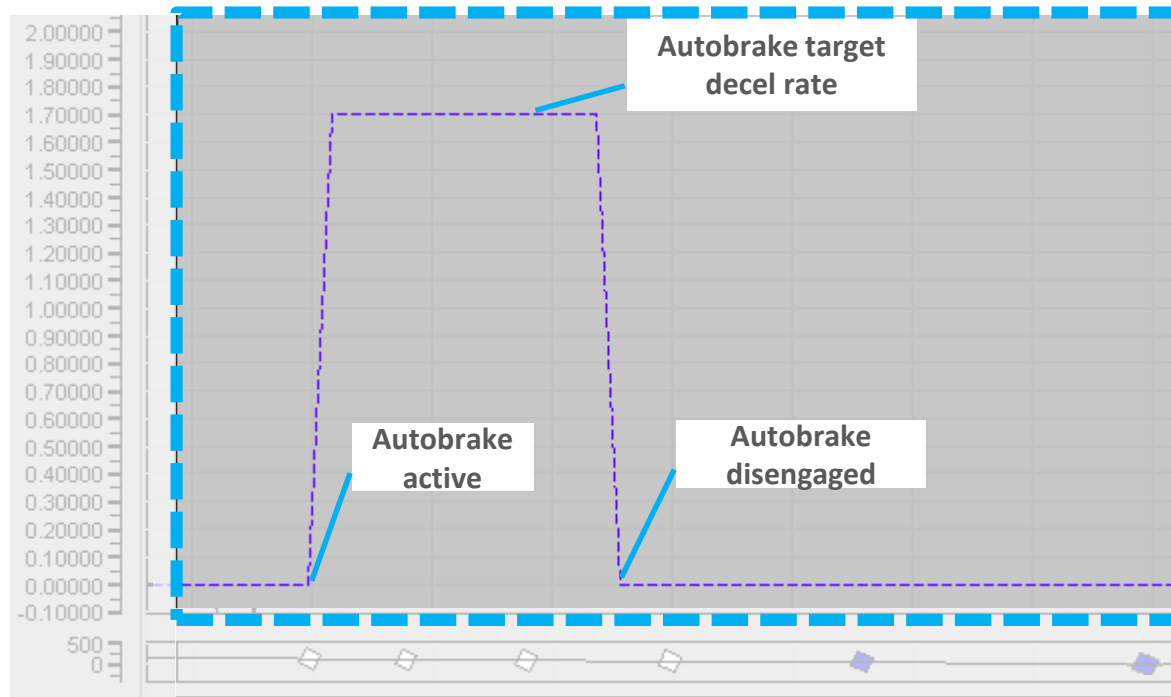
- Figures are spaced every 20 kts
- The full square represents 80 kts



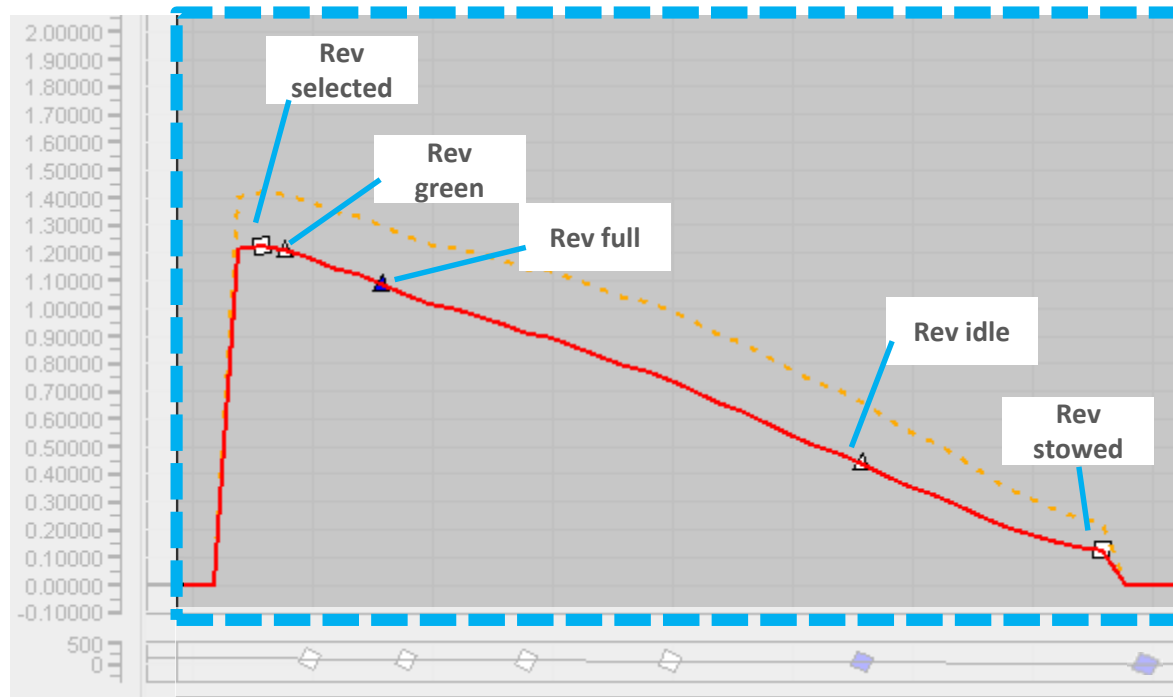
Required deceleration



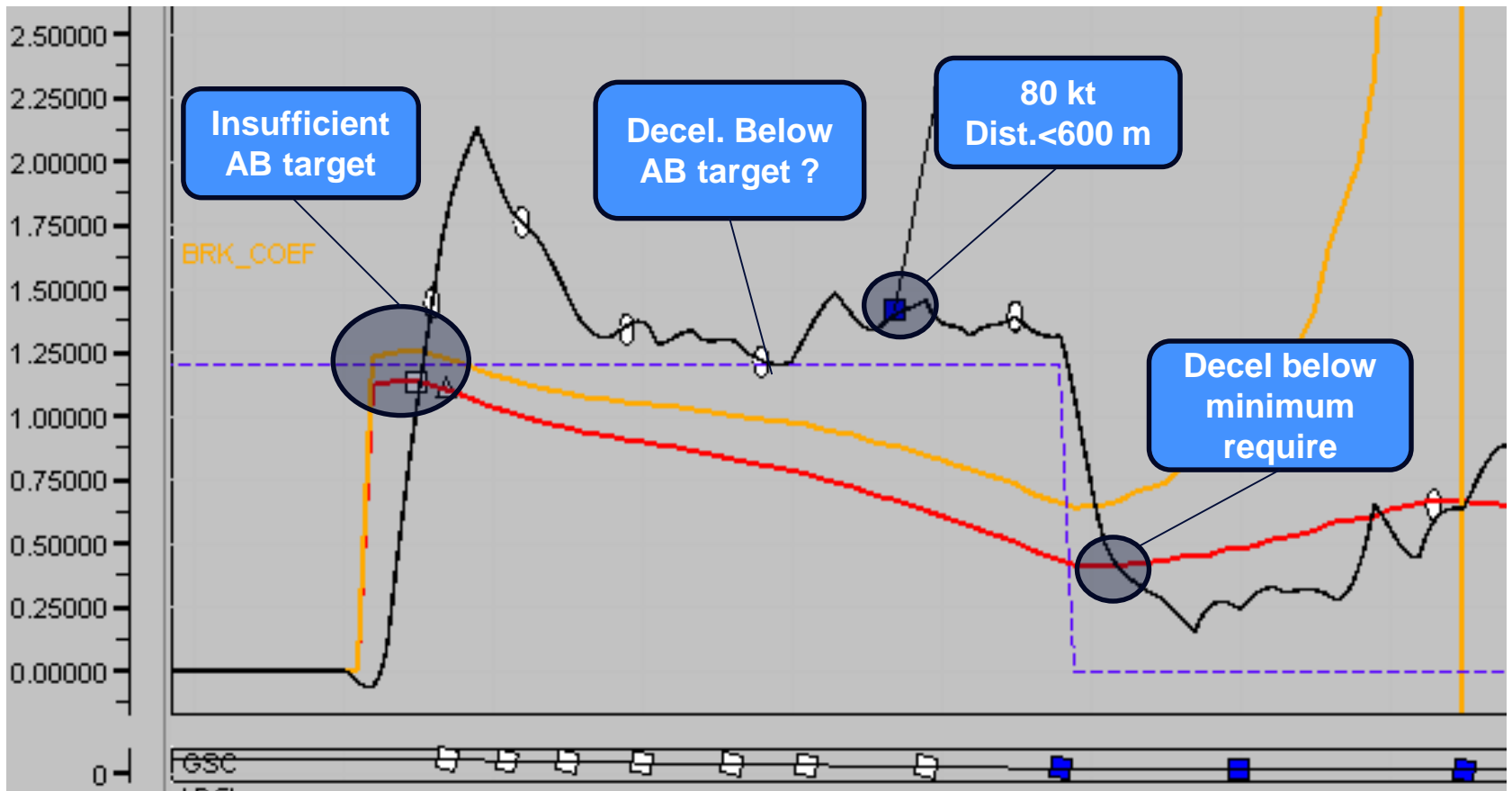
Autobrake

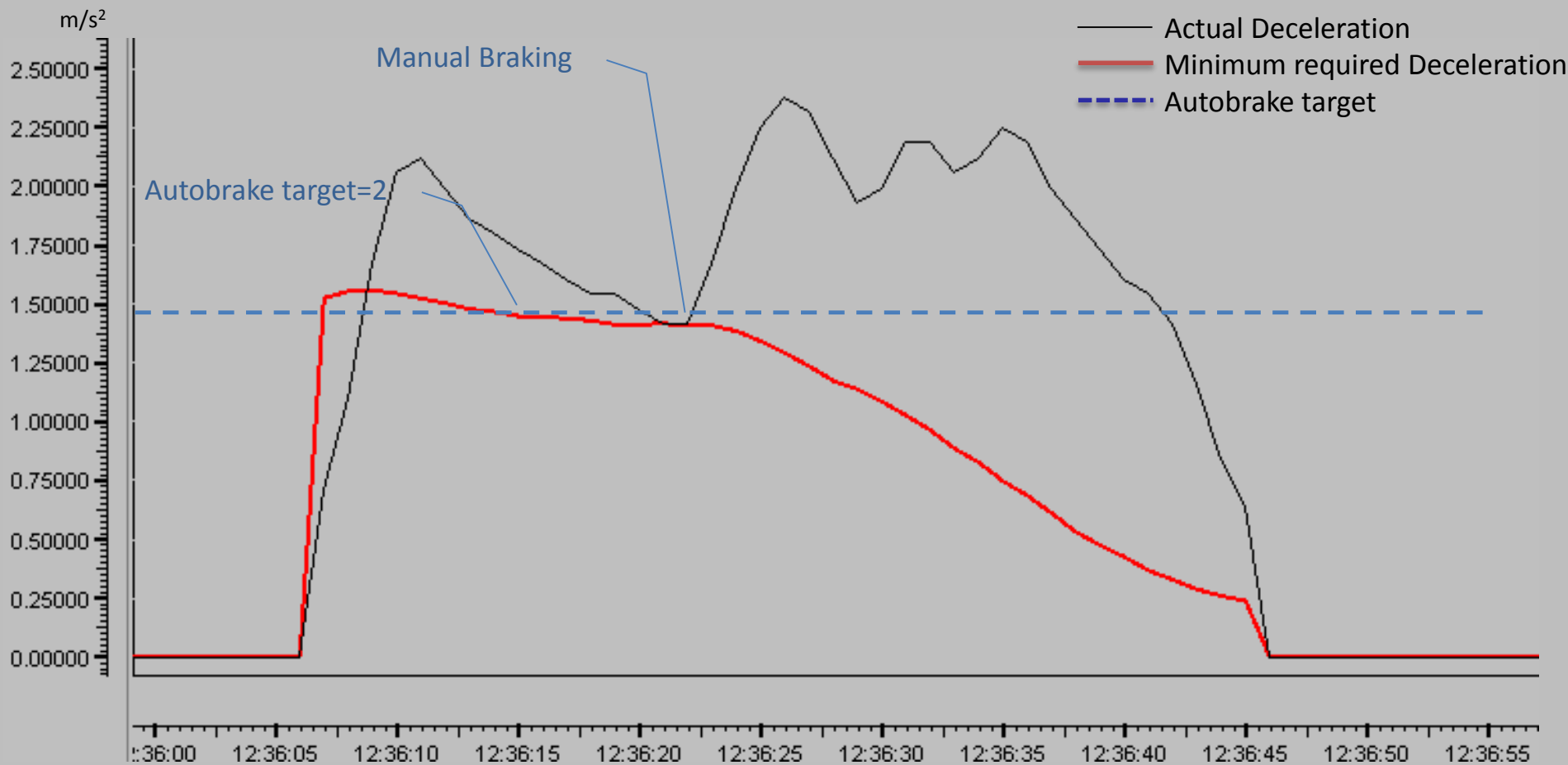


Reverser activation



NEW FDM TESTS : examples



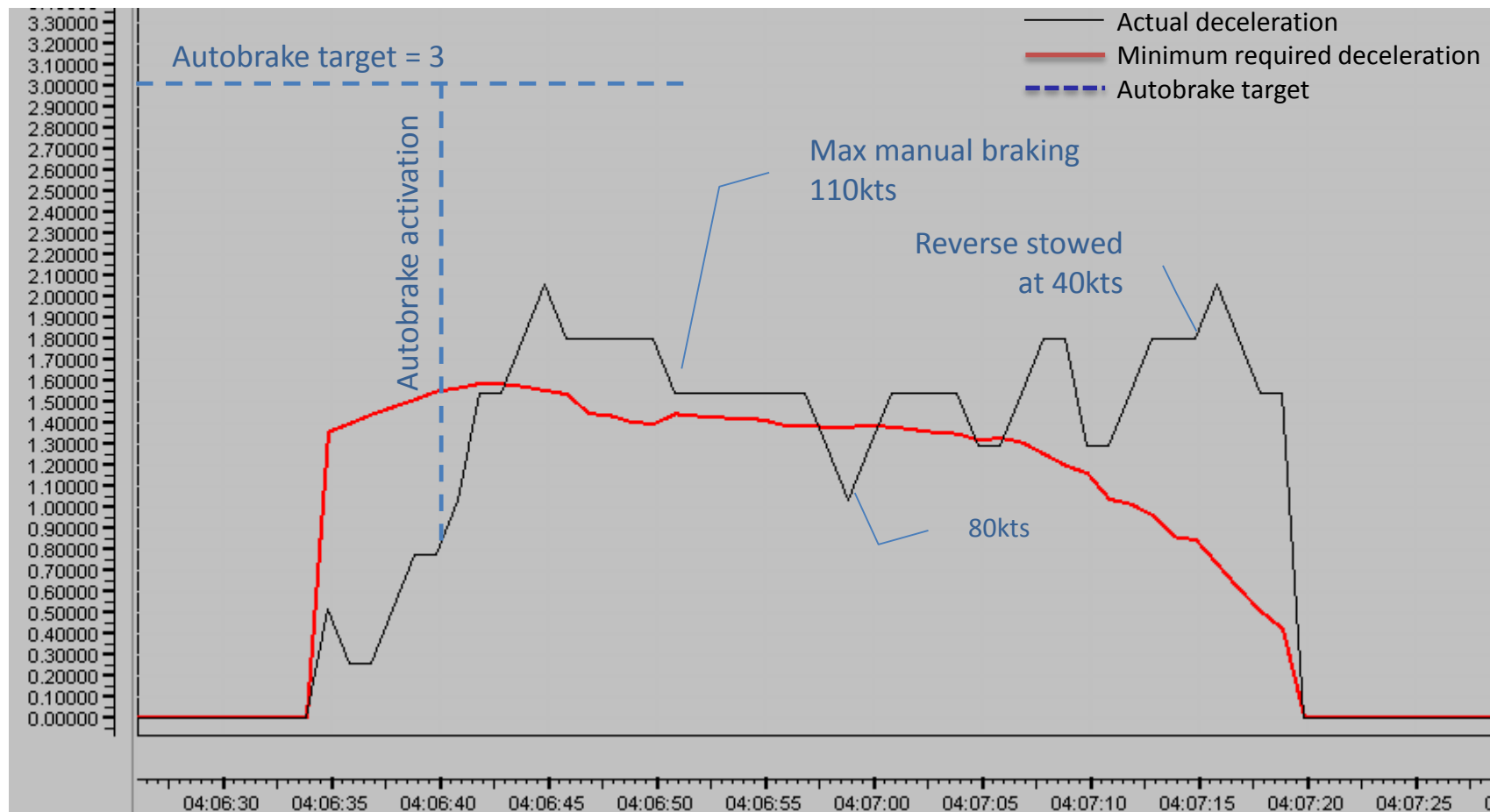


777 – 240T – CONF 25 – REVERSE IDLE – AUTOBRAKE 2 – Wind ± 2 kts

CDG 27R – 2700m



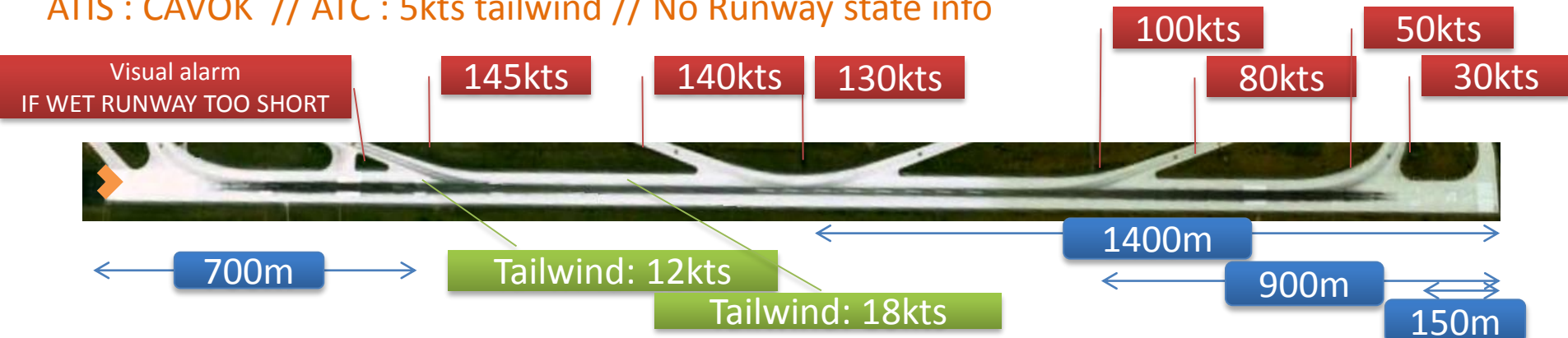
m/s²



388– 362T – CONF FULL – REVERSE FULL – AUTOBRAKE 3 – NO BTV

CDG 08R – 2700m

ATIS : CAVOK // ATC : 5kts tailwind // No Runway state info



Actions : Pilots

DIRECTION SÉCURITÉ ET QUALITÉ / 23 SEPTEMBRE 2015

SAFETY FIRST

Destinataires : tous pilotes A320



Benoît LECHARDY
CDS 130/056



RISQUE SORTIE DE PISTE À L'ATERRISSAGE : TROP VITE, TROP TARD

Chers collègues,

Nos résultats en termes de performance à l'atterrissage sont, pour la première fois depuis trois ans, en dégradation depuis le début de l'année.

Le nombre d'atterrissages longs et courts est en augmentation mais c'est surtout le nombre de cas d'avions avec une vitesse excessive à l'approche du bout de piste (>80 kts à moins de 600 m du bout) qui inspire le plus d'inquiétude.

En effet, cet indicateur mesure directement et objectivement notre exposition au risque de sortie de piste.



Exemple AJA 201 :

- A321, 72 t, CONF FULL, A/B MED selecté, météo CAVOK.
- Poser à 400 m, coupure immédiate de "autobrake" (action pilote).
- Aucun freinage jusqu'à 900 m du bout de piste (100 kts à 900 m) puis freinage de type A/B LOW (17 m/s²) jusqu'au dérapement.
- 80 kts à 540 m, 50 kts à 300 m du bout de piste et dérapement à 20 kts.

COMMUNICATIONS



TRI
STANDARDIZATION

RECURRENT
TRAINING

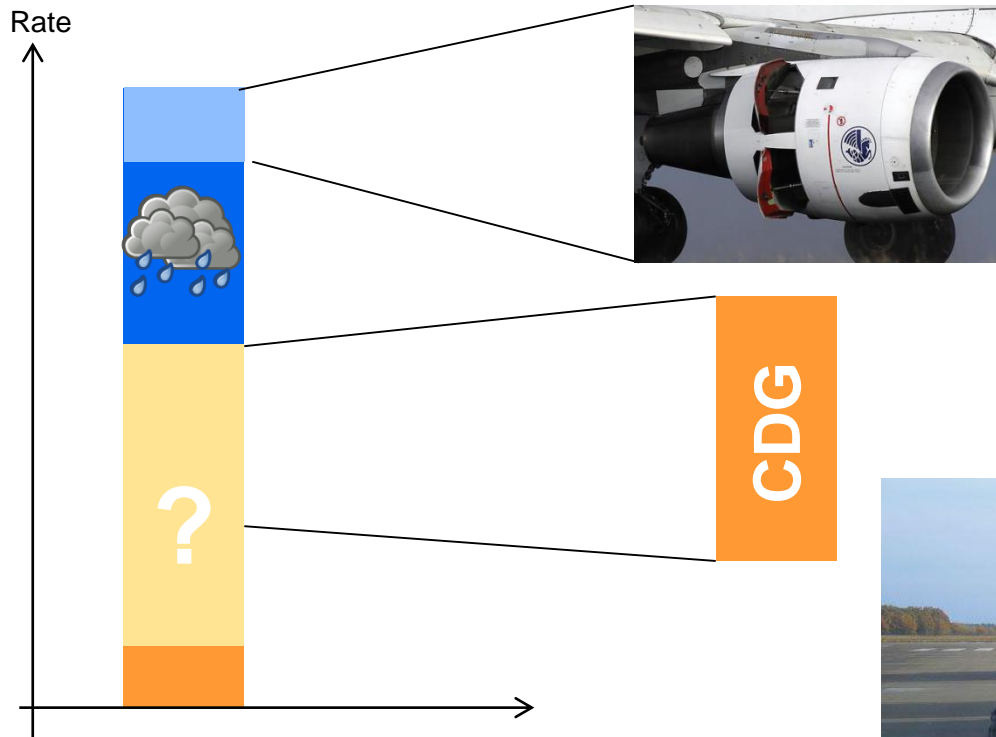


ROW - ROPS



Actions – Airports 1/3

Rate of target of decel rate of the A/B not reached



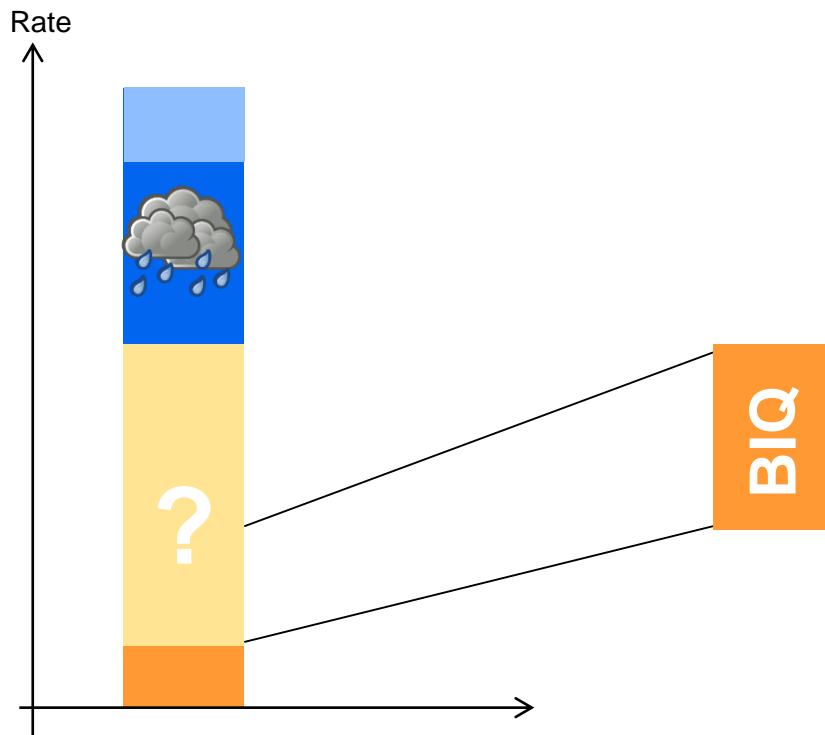
Part due to REV IDLE

Runway cleaning actions



Actions – Airports 2/3

Rate of target of decel rate of the A/B not reached



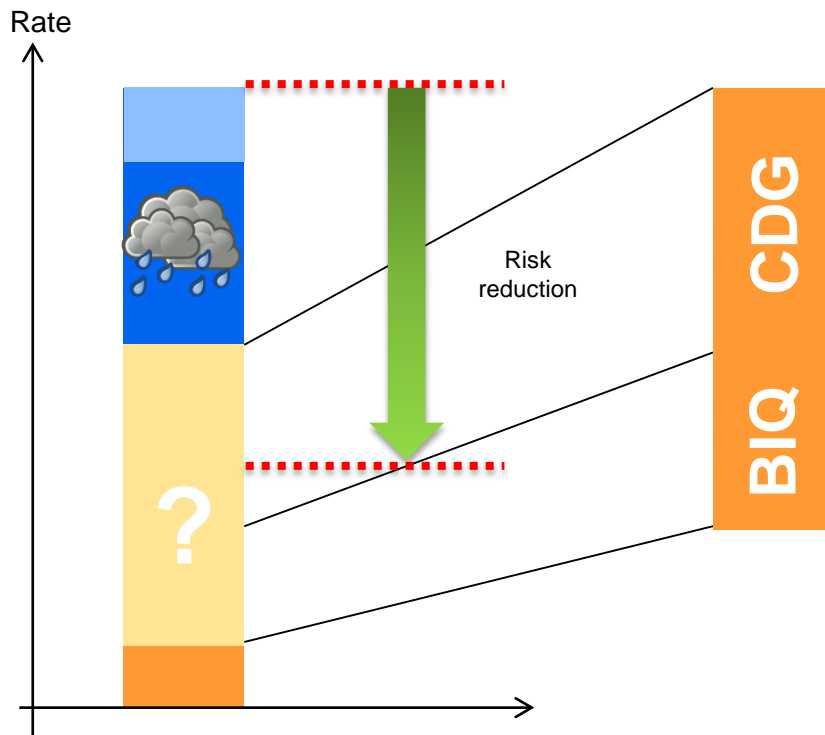
CCI AIRFRANCE	Biarritz France	C-02	Effective 18-SEP-2014 11-SEP-2014 BIQ-LFBZ
	SAFETY BRIEFING		
	DEPARTURE		
	AGC / APC		
	TAXIWAY		
	• TWY P : Width < 23 m.		
	RUNWAY		
	• RWY 09/27: TORA 2250 m.		
	• RWY slippery when wet. (FDM)		
	SID		
	• Climb gradient exceeds 3,3%. (ATC)		

RUNWAY

- RWY 09/27: TORA 2250 m.
- RWY slippery when wet. (FDM)

Actions – Airports 3/3

Final risk reduction through coordinated airport actions



Example of Results

